

RECEIVED



1600

#72  
8-28-02  
RZ.

RAW SEQUENCE LISTING  
PATENT APPLICATION: US/09/730,374A

DATE: 08/20/2002  
TIME: 14:13:37

Input Set : A:\150188US2.txt  
Output Set: N:\CRF4\08202002\I730374A.raw

ENTERED

4 <110> APPLICANT: Lust, John A.  
5 Donovan, Kathleen A.  
7 <120> TITLE OF INVENTION: USE OF GENETICALLY ENGINEERED ANTIBODIES TO CD38 TO TREAT  
MULTIPLE MYELOMA

10 <130> FILE REFERENCE: 150.188US2  
12 <140> CURRENT APPLICATION NUMBER: 09/730,374A  
13 <141> CURRENT FILING DATE: 2000-12-05  
15 <150> PRIOR APPLICATION NUMBER: PCT/US99/12512  
16 <151> PRIOR FILING DATE: 1999-06-04  
18 <150> PRIOR APPLICATION NUMBER: 60/088,277  
19 <151> PRIOR FILING DATE: 1998-08-05  
21 <160> NUMBER OF SEQ ID NOS: 5  
23 <170> SOFTWARE: FastSEQ for Windows Version 4.0  
25 <210> SEQ ID NO: 1  
26 <211> LENGTH: 750  
27 <212> TYPE: DNA  
28 <213> ORGANISM: Artificial Sequence  
30 <220> FEATURE:  
31 <223> OTHER INFORMATION: A nucleotide sequence encoding a single chain  
32 variable region fragment (scFv)

34 <400> SEQUENCE: 1  
35 ggccccagccg gccatggcca aggtccagct gcaggagtca ggacctagcc tagtgcagcc 60  
36 ctcacagcgc ctgtccataa cctgcacagt ctctggtttc tcattaatta gttatggtgt 120  
37 acactgggtt cgccagtctc caggaaaggg tctggagtgg ctgggagtga tatggagagg 180  
38 tggaagcaca gactacaatg cagctttcat gtccagactg agcatcacca aggacaactc 240  
39 caagagccaa gttttcttta aaatgaacag tctgcaagct gatgacactg ccatatactt 300  
40 ctgtgccaaa accttgatta cgacgggcta tgctatggac tactggggcc aagggaccac 360  
41 ggtoaccgtc tcttcaggtg gaggcgggtc aggcggaggt ggctctggcg gtggcggatc 420  
42 ggacatcgag ctcaactcagt ctccatcctc cttttctgta tctctaggag acagagtcac 480  
43 cattacttgc aaggcaagtg aggacatata taatcgggta gcctgggtatc agcagaaacc 540  
44 aggaaatgct cctaggctct taatatctgg tgcaaccagt ttggaaactg gggttccttc 600  
45 aagattcagt ggcagtggtt ctggaaagga ttacactctc agcattacca gtcttcagac 660  
46 tgaagatggt gctacttatt actgtcaaca gtattggagt actcctacgt tcggtggagg 720  
47 gaccaagctg gaaatcaaac gggcgccgcg 750

49 <210> SEQ ID NO: 2  
50 <211> LENGTH: 241  
51 <212> TYPE: PRT  
52 <213> ORGANISM: Artificial Sequence  
54 <220> FEATURE:  
55 <223> OTHER INFORMATION: A polypeptide encoded by an open reading frame of  
56 SEQ ID NO:1  
58 <400> SEQUENCE: 2  
59 Gly Pro Ala Gly His Gly Gln Gly Pro Ala Ala Gly Val Arg Thr Pro  
60 1 5 10 15

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```

61 Ser Ala Ala Leu Thr Ala Pro Val His Asn Leu His Ser Leu Trp Phe
62          20          25          30
63 Leu Ile Asn Leu Trp Cys Thr Leu Gly Ser Pro Val Ser Arg Lys Gly
64          35          40          45
65 Ser Gly Val Ala Gly Ser Asp Met Glu Arg Trp Lys His Arg Leu Gln
66          50          55          60
67 Cys Ser Phe His Val Gln Thr Glu His His Gln Gly Gln Leu Gln Glu
68 65          70          75          80
69 Pro Ser Phe Leu Asn Glu Gln Ser Ala Ser His Cys His Ile Leu Leu
70          85          90          95
71 Cys Gln Asn Leu Asp Tyr Asp Gly Leu Cys Tyr Gly Leu Leu Gly Pro
72          100          105          110
73 Arg Asp His Gly His Arg Leu Leu Arg Trp Arg Arg Phe Arg Arg Arg
74          115          120          125
75 Trp Leu Trp Arg Trp Arg Ile Gly His Arg Ala His Ser Val Ser Ile
76          130          135          140
77 Leu Leu Phe Cys Ile Ser Arg Arg Gln Ser His His Tyr Leu Gln Gly
78 145          150          155          160
79 Lys Gly His Ile Ser Val Ser Leu Val Ser Ala Glu Thr Arg Lys Cys
80          165          170          175
81 Ser Ala Leu Asn Ile Trp Cys Asn Gln Phe Gly Asn Trp Gly Ser Phe
82          180          185          190
83 Lys Ile Gln Trp Gln Trp Ile Trp Lys Gly Leu His Ser Gln His Tyr
84          195          200          205
85 Gln Ser Ser Asp Arg Cys Cys Tyr Leu Leu Leu Ser Thr Val Leu Glu
86          210          215          220
87 Tyr Ser Tyr Val Arg Trp Arg Asp Gln Ala Gly Asn Gln Thr Gly Gly
88 225          230          235          240
89 Arg

```

92 &lt;210&gt; SEQ ID NO: 3

93 &lt;211&gt; LENGTH: 249

94 &lt;212&gt; TYPE: PRT

95 &lt;213&gt; ORGANISM: Artificial Sequence

97 &lt;220&gt; FEATURE:

98 &lt;223&gt; OTHER INFORMATION: A polypeptide encoded by an open reading frame of

99 SEQ ID NO:1

102 &lt;400&gt; SEQUENCE: 3

```

103 Ala Gln Pro Ala Met Ala Lys Val Gln Leu Gln Glu Ser Gly Pro Ser
104 1          5          10          15
105 Leu Val Gln Pro Ser Gln Arg Leu Ser Ile Thr Cys Thr Val Ser Gly
106          20          25          30
107 Phe Ser Leu Ile Ser Tyr Gly Val His Trp Val Arg Gln Ser Pro Gly
108          35          40          45
109 Lys Gly Leu Glu Trp Leu Gly Val Ile Trp Arg Gly Gly Ser Thr Asp
110          50          55          60
111 Tyr Asn Ala Ala Phe Met Ser Arg Leu Ser Ile Thr Lys Asp Asn Ser
112 65          70          75          80
113 Lys Ser Gln Val Phe Phe Lys Met Asn Ser Leu Gln Ala Asp Asp Thr
114          85          90          95

```

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```

115 Ala Ile Tyr Phe Cys Ala Lys Thr Leu Ile Thr Thr Gly Tyr Ala Met
116           100           105           110
117 Asp Tyr Trp Gly Gln Gly Thr Thr Val Thr Val Ser Ser Gly Gly Gly
118           115           120           125
119 Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Asp Ile Glu Leu
120           130           135           140
121 Thr Gln Ser Pro Ser Ser Phe Ser Val Ser Leu Gly Asp Arg Val Thr
122 145           150           155           160
123 Ile Thr Cys Lys Ala Ser Glu Asp Ile Tyr Asn Arg Leu Ala Trp Tyr
124           165           170           175
125 Gln Gln Lys Pro Gly Asn Ala Pro Arg Leu Leu Ile Ser Gly Ala Thr
126           180           185           190
127 Ser Leu Glu Thr Gly Val Pro Ser Arg Phe Ser Gly Ser Gly Ser Gly
128           195           200           205
129 Lys Asp Tyr Thr Leu Ser Ile Thr Ser Leu Gln Thr Glu Asp Val Ala
130           210           215           220
131 Thr Tyr Tyr Cys Gln Gln Tyr Trp Ser Thr Pro Thr Phe Gly Gly Gly
132 225           230           235           240
133 Thr Lys Leu Glu Ile Lys Arg Ala Ala
134           245
136 <210> SEQ ID NO: 4
137 <211> LENGTH: 239
138 <212> TYPE: PRT
139 <213> ORGANISM: Artificial Sequence
141 <220> FEATURE:
142 <223> OTHER INFORMATION: A polypeptide encoded by an open reading frame of
143     SEQ ID NO:1
146 <400> SEQUENCE: 4
147 Pro Ser Arg Pro Trp Pro Arg Ser Ser Cys Arg Ser Gln Asp Leu Ala
148 1           5           10           15
149 Cys Ser Pro His Ser Ala Cys Pro Pro Ala Gln Ser Leu Val Ser His
150           20           25           30
151 Leu Val Met Val Tyr Thr Gly Phe Ala Ser Leu Gln Glu Arg Val Trp
152           35           40           45
153 Ser Gly Trp Glu Tyr Gly Glu Val Glu Ala Gln Thr Thr Met Gln Leu
154           50           55           60
155 Ser Cys Pro Asp Ala Ser Pro Arg Thr Thr Pro Arg Ala Lys Phe Ser
156 65           70           75           80
157 Leu Lys Thr Val Cys Lys Leu Met Thr Leu Pro Tyr Thr Ser Val Pro
158           85           90           95
159 Lys Pro Leu Arg Arg Ala Met Leu Trp Thr Thr Gly Ala Lys Gly Pro
160           100          105          110
161 Arg Ser Pro Ser Pro Gln Val Glu Ala Val Gln Ala Glu Val Ala Leu
162           115          120          125
163 Ala Val Ala Asp Arg Thr Ser Ser Ser Leu Ser Leu His Pro Pro Phe
164           130          135          140
165 Leu Tyr Leu Glu Thr Glu Ser Pro Leu Leu Ala Arg Gln Val Arg Thr
166 145          150          155          160
167 Tyr Ile Ile Gly Pro Gly Ile Ser Arg Asn Gln Glu Met Leu Leu Gly

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```

168                               165                               170                               175
169 Ser Tyr Leu Val Gln Pro Val Trp Lys Leu Gly Phe Leu Gln Asp Ser
170                               180                               185                               190
171 Val Ala Val Asp Leu Glu Arg Ile Thr Leu Ser Ala Leu Pro Val Phe
172                               195                               200                               205
173 Arg Leu Lys Met Leu Leu Leu Ile Thr Val Asn Ser Ile Gly Val Leu
174                               210                               215                               220
175 Leu Arg Ser Val Glu Gly Pro Ser Trp Lys Ser Asn Gly Arg Pro
176 225                               230                               235
178 <210> SEQ ID NO: 5
179 <211> LENGTH: 750
180 <212> TYPE: DNA
181 <213> ORGANISM: Artificial Sequence
183 <220> FEATURE:
184 <223> OTHER INFORMATION: A nucleotide sequence complementary to SEQ ID NO:1
185      (presented in 5'-3' orientation)
187 <400> SEQUENCE: 5
188 ggggcccggc gtttgatttc cagcttggtc cctccaccga acgtaggagt actccaatac      60
189 tgttgacagt aataagtagc aacatcttca gtctgaagac tggtaatgct gagagtgtaa      120
190 tcctttccag atccactgcc actgaatctt gaaggaaccc cagtttccaa actggttgca      180
191 ccagatatta agagcctagg agcatttcct ggtttctgct gataccaggc taaccgatta      240
192 tatatgtcct cacttgcctt gcaagtaatg gtgactctgt ctccatagaga tacagaaaag      300
193 gaggatggag actgagttag ctcgatgtcc gatccgccac cgccagagcc acctccgcct      360
194 gaaccgcctc cacctgagga gacggtgacc gtggtccctt ggccccagta gtccatagca      420
195 tagcccgtcg taatcaaggt tttggcacag aagtatatgg cagtgtcatc agcttgacga      480
196 ctgttcattt taaagaaaac ttggctcttg gagttgtcct tggatgagct cagtctggac      540
197 atgaaagctg cattgtagtc tgtgtctcca cctctccata tcaactcccag ccaactccaga      600
198 ccctttcctg gagactggcg aaccagtggt acaccataac taattaatga gaaaccagag      660
199 actgtgcagg ttatggacag gcgctgtgag ggctgcacta ggctagggtcc tgactcctgc      720
200 agctggacct tggccatggc cggctgggcc

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VERIFICATION SUMMARY

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